

STATE OF GEORGIA
REVISED TMDL IMPLEMENTATION PLAN
TENNESSEE RIVER BASIN
Revision 01; April 28, 2006

DISSOLVED OXYGEN
0% REDUCTION OF OXYGEN DEMANDING SUBSTANCE
REQUIRED

Prepared by
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Total Maximum Daily Load (TMDL) implementation plans are platforms for establishing a course of actions to restore the quality of impaired water bodies in a watershed. They are intended as a continuing process that may be revised as new conditions and information warrant. Procedures will be developed to track and evaluate the implementation of the management practices and activities identified in the plans. Once restored, appropriate management practices and activities will be continued to maintain the water bodies. The overall goal of the Plan is to define a set of actions that will help achieve water quality standards in the state of Georgia.

The initial TMDL Implementation Plan was part of the TMDL developed in 2004. This Revision supercedes the initial TMDL Implementation Plan.

This Implementation Plan is applicable to the following segments in the Tennessee River Basin:

Impaired Waterbody	Location	Miles/Area Impacted
McFarland Branch	City of Rossville (Walker County)	1

INTRODUCTION

The TMDL process establishes the allowable pollutant loadings or other quantifiable parameters for a water body based on the relationship between pollutant sources and in-stream water quality conditions. This allows water quality-based controls to be developed to reduce pollution and to restore and maintain water quality.

Based on United States Geological Survey (USGS) water quality data collected in 2001, McFarland Branch was determined to be impaired due to low dissolved oxygen (DO) level and classified on the Georgia Environmental Protection Division (GA EPD) 2002 Section 303 (d) list as not supporting fishing. The data indicated that the impairment was caused by a broken sewer pipe that discharged raw sewage into the stream for a period of four months in 2001. The broken sewer line was fixed on August 20, 2001. No dissolved oxygen violations have been recorded since this time in McFarland Branch.

A steady-state Georgia DOSAG model was used to represent McFarland Branch to determine the DO TMDL. The two critical components of the TMDL are point source wasteload allocations (WLA) and nonpoint source load allocations (LA). WLA and LA represent the entire TMDL because “the margin of safety” (MOS) is implicitly considered through conservative model assumptions. The steady-state Georgia DOSAG, developed by GA EPD, provides a complete spatial view of a system, upstream to downstream, for understanding important differences in stream behavior at various locations throughout a basin.

DISCUSSION OF POLLUTANT

The data collected by the USGS in Georgia during 2001 showed that dissolved oxygen impairments in McFarland Branch did not correlate with high temperatures and low stream flows which indicates that the violations were not a natural phenomena. Based on the historical data assessment of McFarland Branch, the dissolved oxygen violations in 2001 were concluded to be incidental and caused by discharges of raw sewage into the stream from a broken sewer pipe.

The TMDL for McFarland Branch states that no load reductions are needed to meet water quality standards for dissolved oxygen. The associated water quality standard for dissolved oxygen for this impaired water body that is addressed in *Georgia's Rules and Regulations for Water Quality Control*, Chapter 391-3-6-.03 (c) (i), is:

A daily average of 5.0 mg/l and no less than 4.0 mg/l at all times for waters supporting warm water species of fish.

Since the low dissolved oxygen level in the impaired segment was due to an incidental illicit discharge and no violations have been recorded since the incident, this water quality standard is appropriate to support the proposed allocations.

POLLUTANT SOURCES

Currently, no reduction in the TMDL load is needed to correct the dissolved oxygen violations because the broken sewer line has been repaired. There are no NPDES permitted facilities in the McFarland Branch Watershed at this time. There is no WLA allocated to point sources.

PLAN FOR IMPLEMENTATION OF TMDL

The TMDL for McFarland Branch states that no load allocation reduction is needed to meet water quality standards for dissolved oxygen. GA EPD will encourage local governments and stakeholders to continue implementing management practices and activities that are already in place, including watershed assessments of potential pollutant sources and controls as well as water quality sampling and monitoring.

MONITORING PLAN

GA EPD has adopted a basin approach to water quality management that divides Georgia's fourteen major river basins into five groups. This approach provides for additional sampling work to be focused on one of the five basin groups each year and offers a five year planning and assessment cycle. The Coosa, Tallapoosa and Tennessee River Basins were the subjects of focused monitoring in 2001 and in 2005.

EDUCATION/OUTREACH ACTIVITIES

GA EPD will continue to provide guidance and education to the public on all water quality issues through outreach by the Watershed Protection Branch. Permitted discharges will be regulated through the NPDES permitting process. GA EPD is working with local governments, Regional Development Centers, agricultural and forestry agencies such as the Natural Resources Conservation Service, the Georgia Soil and Water Conservation Commission, and the Georgia Forestry Commission to foster the implementation of best management practices to address nonpoint sources. Public education efforts will be targeted to stakeholders to provide information regarding the use of best management practices to protect water quality.

REFERENCES

Georgia Rules and Regulations for Water Quality Control, Chapter 391-3-6-.03,
Water Use Classifications and Water Quality Standards,
Revised February 2004.

GAEPD, 2004. Total Maximum Daily Load Evaluation for McFarland Branch in
the Tennessee River Basin for Dissolved Oxygen. January 2004.